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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,089

03/31/2004

Marck Matusz

TH-1657 (US)

7339

23632

7590

09/17/2007

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EXAMINER

ABU ALI, SHUANGYI

ART UNIT

PAPER NUMBER

1755

MAIL DATE

DELIVERY MODE

09/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/815,089

Applicant(s)

MATUSZ ET AL.

Examiner

Shuangyi Abu-Ali

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-23 and 46-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-23 and 46-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

(1)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16-23 and 46-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 5,504,053 to Chou et al.

The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and

overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

Regarding claims 16, 17, 18 and 51, Chou et al. disclose a process for preparing a catalyst composition comprising, selecting a support having a surface area of $0.03 \text{ m}^2/\text{g}$ ($30 \text{ m}^2/\text{kg}$) to about $10 \text{ m}^2/\text{g}$ ($10 \times 10^3 \text{ m}^2/\text{kg}$), and depositing on the support: silver metal, a metal or component comprising rhenium, tungsten, molybdenum, or a nitrate- or nitrite-forming compound, and a component containing a Group 1A metal having an atomic number of at least 5 to 83, and in addition potassium. (Chou et al., column 14, lines 8-14, column 8, lines 24-27, column 5, column 9, lines 1-44, and column 5, lines 23-34)..

The concentration of cesium is in the range of 0.0005-1.0-wt% (3.76×10^{-2} – 75 mmole /kg). The ratio of the cesium salt to other alkali metal (such as potassium) is in the range of 0.0001:1 to 10000:1. Therefore, the " $Q_K/R + Q_{HIA}$ " limitations of claims 16-18 can be found in Chou et al. at column 15, line 63 to column 16, line 12.

Regarding claim 19, 46, and 47, Chou et al., disclose a process for preparing a catalyst composition. Chou et al., further disclose that in said process for preparing a catalyst composition, preferably, cesium comprises at least about 10, more preferably, about 20-100 percent by weight of the total added alkali metal and alkaline earth metal (i.e., Group 1A metals having an atomic number of at least 37, in this instant case) in the finished catalyst. (Chou et al., column 16, lines 12-15).

Regarding claims 20-22, and 48, Chou et al further disclose said process wherein, the surface area of the support is preferably from about $0.05 \text{ m}^2/\text{g}$ ($50 \text{ m}^2/\text{kg}$) to

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about 5 m²/g (5000 m²/kg). (Chou et al., column 14, line 11). Chou et al. also disclose that the requisite range of quantities of the cation promoter (alkali metal, such as potassium, in this instant case) present in the catalyst composition generally lies between about 10 ppm (0.26 mmoles/kg) and about 4000 ppm (102.56 mmoles/kg), preferably about 15 ppm (0.38 mmoles/kg) and about 3000 ppm (76.92 mmoles/kg), and more preferably between about 20 ppm (0.51 mmoles/kg) and about 2500 ppm (64.1 mmoles/kg) by total weight of the catalyst composition. (Chou et al., column 16, lines 1-4). Chou et al. also teach that the ratio of cesium salt (Higher Group 1A component, in this instant case) to the other salt(s) may vary preferably from about 0.001:1 to 1000:1 (Chou et al., column 16, lines 10-12).

Therefore, the following various ranges in the value of the expression $(Q_K/R) + Q_{HIA}$, as set forth in Applicants' claims 20-22, and 48 : (1) 0.5 to 50 mmoles/kg with surface area of support in the range of 500 to 5000 m²/kg (claim 20), (2) 1 to 40 mmoles/kg with surface area of support in the range of 500 to 5000 m²/kg (claim 21), (3) 1.5 to 12 mmoles/kg with surface area of support in the range of 500 to 1500 m²/kg ; or 4 to 15 mmoles/kg with surface area of support in the range of 1500 to 2500 m²/kg; or 5 to 25 mmoles/kg with surface area of support in the range of 2500 to 5000 m²/kg (claim 22), and (4) 2 to 6 mmoles/kg with surface of support of 500 to 1500 m²/kg ; or 6 to 10 mmoles/kg with surface area of support of 1500 to 2500 m²/kg; or 10 to 20 mmoles/kg with surface area of support of 2500 to 5000 m²/kg, - all fall within the limitations taught by the disclosure of Chou et al as set forth above.

Regarding claim 23, Chou et al., as set forth above, under rejection of claim 16, disclose a process for preparing a catalyst composition. Chou et al. also disclose that said process further comprises depositing on the support anion promoters or modifiers selected from the group consisting of one or more of sulfate, phosphate, and borate, among others (Chou et al., column 16, lines 32-39).

Regarding Applicants' claims 49 and 50, Chou et al. disclose that the catalyst composition may contain lithium, selected among other alkali metal and/or alkaline earth metals (i Group 1A metals or components comprising a Group 1A metal). (Chou et al., column 15, lines 30-34). Chou et al. also further disclose that the concentration of the alkali metal salt (such as lithium salt) and the alkaline earth metal in the final catalyst composition is not narrowly critical and may vary over a wide range. The optimum salt concentration for a particular catalyst is depended upon performance characteristic (col. 15, lines 56-61). The concentration of cesium is in the range of 0.0005-1.0 wt% (3.76×10^{-2} –75 mmole/kg). The ratio of the cesium salt to other alkali metal (such as lithium) is in the range of 0.0001:1 to 10000:1 (col. 15, line 63-65 and col. 16, lines 10-11).

(2)

Response to Arguments

Applicant's arguments with respect to claim 1 about U. S. C. 102 (b) rejection of anticipation of the range of " $Q_k/R + Q_{HIA}$ " limitations have been considered but are moot in view of the new ground(s) of rejection.

(3)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art is listed on PTO-892 B-K. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA


J.A. LORENGO
SUPERVISORY PATENT EXAMINER